



U.S. Department of Commerce  
BUREAU OF THE CENSUS  
INTERNATIONAL TRADE ADMINISTRATION

# Copper Controlled Materials

FIRST QUARTER 1986

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The statistics in this publication are based on a survey of all known producers of brass mill products, and a 95-percent sample of producers of wire mill products. The figures represent total U.S. shipments of copper-base and foundry products.

A description of the survey methodology and related information appears on page 4.

Table 1. SUMMARY OF SHIPMENTS OF COPPER-BASE MILL AND FOUNDRY PRODUCTS: 1986 AND 1985

(Millions of pounds--metal weight)

| Quarter and year                  | Total              | Brass mill products |           | Copper wire mill products <sup>1</sup> |                              |                      | Brass and bronze foundry products <sup>3</sup> |
|-----------------------------------|--------------------|---------------------|-----------|--|------------------------------|----------------------|--|
|                                   |                    | Alloyed             | Unalloyed | Bare wire <sup>2</sup>                 | Insulated communication wire | Other insulated wire |  |
| 1986                              |                    |                     |           |  |                              |                      |  |
| First quarter.....                | 1,189              | 369                 | 253       | 29                                     | 59                           | 341                  | 138  |
| 1985                              |                    |                     |           |  |                              |                      |  |
| Total <sup>4</sup> .....          | <sup>r</sup> 4,728 | 1,366               | 997       | 119                                    | 293                          | <sup>r</sup> 1,412   | 541  |
| Fourth quarter <sup>4</sup> ..... | <sup>r</sup> 1,104 | 316                 | 233       | 30                                     | 68                           | <sup>r</sup> 329     | 128  |
| Third quarter.....                | 1,147              | 323                 | 239       | 32                                     | 76                           | 349                  | 128  |
| Second quarter.....               | 1,239              | 352                 | 265       | 28                                     | <sup>r</sup> 90              | 357                  | 147  |
| First quarter.....                | 1,238              | 375                 | 260       | 29                                     | 59                           | 377                  | 138  |

Note: Detail may not add to totals due to independent rounding.

<sup>r</sup>Revised by 5 percent or more from previously published figures.

<sup>1</sup>Represents copper content weight, rather than metal weight.

<sup>2</sup>Represents uninsulated, bare, tinned, and/or alloy coated wire.

<sup>3</sup>Source: Bureau of the Census, Current Industrial Report Series, M33E, Nonferrous Castings.

<sup>4</sup>Revised data for fourth quarter 1985 precludes any previously released data for fourth quarter 1985 represented in the summary for 1985, issued April 1986.



Address inquiries concerning these figures to U.S. Department of Commerce, International Trade Administration, Materials Division, Washington, D.C. 20230, or to the Bureau of the Census, Industry Division, Washington, D.C. 20233, or call Pamela Glekas, (301) 763-2529. For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Table 2. SHIPMENTS OF COPPER-BASE MILL AND FOUNDRY PRODUCTS

(Millions of pounds--metal weight)

| Product description                                  | First<br>quarter<br>1986 | Fourth<br>quarter<br>1985 <sup>1</sup> |
|--|--------------------------|--|
| Total shipments.....                                 | 1,189                    | <sup>r</sup> 1,104                     |
| Copper-base mill products.....                       | 622                      | 549                                    |
| Copper-base alloy:                                   |                          |  |
| Sheet and strip <sup>2</sup> .....                   | 145                      | 126                                    |
| Rod, bar, and wire.....                              | 194                      | 169                                    |
| Tube and pipe.....                                   | 30                       | 21                                     |
| Unalloyed copper:                                    |                          |  |
| Sheet and strip.....                                 | 49                       | 42                                     |
| Rod, bar, and wire <sup>3</sup> .....                | 22                       | 22                                     |
| Tube and pipe.....                                   | 182                      | 169                                    |
| Copper wire mill products <sup>4</sup> .....         | 429                      | <sup>r</sup> 427                       |
| Bare wire <sup>5</sup> .....                         | 29                       | 30                                     |
| Insulated communication wire.....                    | 59                       | 68                                     |
| Other insulated wire.....                            | 341                      | <sup>r</sup> 329                       |
| Brass and bronze foundry products <sup>6</sup> ..... | 138                      | 128                                    |

Note: Detail may not add to totals due to independent rounding.

<sup>r</sup>Revised by 5 percent or more from previously published figures.<sup>1</sup>Revised data for fourth quarter 1985 precludes any previously released data for fourth quarter 1985 represented in the summary for 1985, issued April 1986.<sup>2</sup>Military ammunition cups and discs are included on a net-weight basis, i.e., excluding the weight of the webbing scrap generated in the cupping and discing.<sup>3</sup>Does not include electrical wire.<sup>4</sup>Reported in copper content weight rather than metal weight.<sup>5</sup>Represents uninsulated, bare, tinned, and/or alloy coated wire.<sup>6</sup>Source: Bureau of the Census, Current Industrial Report Series, M33E, Nonferrous Castings.

Table 3. SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF COPPER-BASE MILL AND FOUNDRY PRODUCTS: 1986 AND 1985

(Quantity in millions of pounds)

| Product description <sup>1</sup>             | Manufacturers' shipments | Exports of domestic merchandise <sup>1 2</sup> | Percent exports to manufacturers' shipments | Imports for consumption <sup>1 3</sup> | Apparent consumption <sup>4</sup> | Percent imports to apparent consumption |
|--|--------------------------|--|---|--|-----------------------------------|---|
| FIRST QUARTER 1986                           |                          |  |   |  |                                   |   |
| Copper-base mill products <sup>5</sup> ..... | 651                      | 23   | 4   | 134                                    | 762                               | 18                                      |
| Brass mill products:                         |                          |  |   |  |                                   |   |
| Copper-base alloy:                           |                          |  |   |  |                                   |   |
| Sheet and strip.....                         | 145                      | 3  | 2   | 52                                     | 385                               | 14                                      |
| Rod, bar, and wire.....                      | 194                      | 3  | 2   |  |                                   |   |
| Tube and pipe.....                           | 30                       | 3  | 10  |  |                                   |   |
| Unalloyed copper:                            |                          |  |   |  |                                   |   |
| Sheet and strip.....                         | 49                       | 5  | 10  | 21                                     | 85                                | 25                                      |
| Rod, bar, and wire.....                      | 22                       | 2  | 9   |  |                                   |   |
| Tube and pipe.....                           | 182                      | 2  | 1   |  |                                   |   |
| Copper wire mill products, bare wire.....    | 29                       | 5  | 17  | 21                                     | 45                                | 47                                      |
| FOURTH QUARTER 1985                          |                          |  |   |  |                                   |   |
| Copper-base mill products <sup>5</sup> ..... | 579                      | 20   | 3   | 99                                     | 658                               | 15                                      |
| Brass mill products:                         |                          |  |   |  |                                   |   |
| Copper-base alloy:                           |                          |  |   |  |                                   |   |
| Sheet and strip.....                         | 126                      | 3  | 2   | 47                                     | 336                               | 14                                      |
| Rod, bar, and wire.....                      | 169                      | 3  | 2   |  |                                   |   |
| Tube and pipe.....                           | 21                       | 3  | 14  |  |                                   |   |
| Unalloyed copper:                            |                          |  |   |  |                                   |   |
| Sheet and strip.....                         | 42                       | 2  | 5   | 17                                     | 78                                | 22                                      |
| Rod, bar, and wire.....                      | 22                       | 1  | 5   |  |                                   |   |
| Tube and pipe.....                           | 169                      | 3  | 2   |  |                                   |   |
| Copper wire mill products, bare wire.....    | 30                       | 5  | 17  | 6                                      | 31                                | 19                                      |

<sup>1</sup>For comparison of domestic manufacturers' shipment, export numbers, and import numbers for copper-base mill and foundry products, see table 4.

<sup>2</sup>Source: Bureau of the Census report EM 546, U.S. Exports.

<sup>3</sup>Source: Bureau of the Census report IM 145-X, U.S. Imports for Consumption and General Imports.

<sup>4</sup>Apparent consumption is derived by subtracting exports from the total of net shipments plus imports.

<sup>5</sup>This total does not include either insulated wire and cable or brass and bronze foundry products.

Table 4. COMPARISON OF DOMESTIC MANUFACTURERS' SHIPMENTS, SCHEDULE B EXPORT NUMBERS, AND TSUSA IMPORT NUMBERS FOR COPPER-BASE MILL PRODUCTS: 1986

| Product description                       | Export number                | Import number  |
|---|------------------------------|--|
| Copper mill products:                     |                              |  |
| Copper-base alloy:                        |                              |  |
| Sheet, strip, and plate.....              | 612.3360, 612.3370, 612.3380 | 612.3400, 612.3500, 612.3600, 612.3800, 612.3920, 612.3940, 612.3960, 612.3982, 612.3986, 612.4000, 612.4100, 612.4300, 612.4410, 612.4430, 612.4510, 612.4520, 612.5200, 612.6100, 612.6205, 612.6290, 612.6300, 612.6410, 612.6420, 612.8100, 612.8200 |
| Rod bar, and wire <sup>1</sup> .....      | 612.4620                     |  |
| Tube and pipe.....                        | 613.0520, 613.0530           | 613.0600, 613.0800, 613.1000, 613.1100, 613.1200   |
| Unalloyed copper:                         |                              |  |
| Sheet, strip, and plate.....              | 612.3320                     | 612.3000, 612.3120, 612.3140, 612.3160, 612.3200, 612.5000, 612.6000, 612.8000   |
| Rod, bar, and wire <sup>1</sup> .....     | 612.4642, 612.4645           |  |
| Tube and pipe.....                        | 613.0540, 613.0550           | 613.0210, 613.0290, 613.0300, 613.0400   |
| Copper wire mill products, bare wire..... | 612.7420, 612.7440           | 612.7000, 612.7100, 612.7220, 612.7240, 612.7260, 612.7300   |

<sup>1</sup>The import and export numbers for this line do not include wire.

## DESCRIPTION OF SURVEY

**Scope of Survey.** This survey covers producers of selected copper controlled materials, i.e., brass mill and copper wire mill and foundry products.

**Survey Methodology.** The statistics in this publication on copper-base mill products were collected by mail on Bureau of the Census and International Trade Administration Form ITA9008, Copper Controlled Materials. The survey panel is based on a list of all known producers of copper-base mill shapes supplied by the International Trade Administration (ITA), Department of Commerce. It also includes manufacturers who produce about 95 percent of wire mill products based on studies made by ITA. The data for wire mill products include estimates for small producers in order to represent 100 percent coverage. Approximately 90 companies are included in the mail panel.

Also included in this publication are estimates for foundry products, which are derived from Current Industrial Reports Series M33E, Nonferrous Castings. A description of the methodology for the survey from which these data are derived can be found in the January 1986 publication for this series.

**Reliability of Data.** Survey error may result from several sources: (1) inability to obtain information about all cases in the survey; (2) response errors; (3) definitional difficulties; (4) differences in the interpretation of questions; (5) mistakes in recording or coding the data obtained; and (6) other errors of collection, response, coverage, and estimation for missing data. These non-sampling errors also occur in complete censuses. Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is due to imputing data for nonrespondents, for late reporters, and for data which fail logic edits. Missing figures are imputed based on quarter-to-quarter movements shown by reporting firms. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual quarterly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data, however, increases as the percentage of imputation increases. Figures with imputation rates above 10 percent should be used with caution.

**Revisions to Previous Period Data.** Statistics for previous quarters may be revised as the result of corrected data from respondents, including the receipt of late reports for which imputations were made as described above. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

## EXPLANATION OF TERMS

**Shipments.** Shipments include all copper-base mill product controlled materials. Both products produced by the company which owns the materials and products produced for others under toll agreements are included.

Shipments by brass and bronze foundries include both shipments for sale (to the trade) and shipments (production) for own use. Shipments for own use represents copper and copper-base alloy castings for use by the reporting company or by a subsidiary, parent, or other affiliated company. Also included are castings produced and consumed at the same location in the production of finished products.

### *Definitions of Copper Controlled Materials:*

**Copper-Base Mill Products.** Products produced by rolling, drawing, and extruding copper, brass, bronze, and other copper-base alloy basic shapes. Drawing and insulating of copper wire are also included. All other intermediate shapes are excluded. An intermediate shape is any product which has been rolled, drawn, or extruded from refined copper or brass, and which will be rerolled, redrawn, insulated, or further processed into finished brass mill or copper wire mill products (or into another intermediate shape) by other producers of intermediate or finished shapes of copper controlled materials.

**Controlled Materials.** Domestic and imported steel, copper, aluminum, and nickel alloys, in the forms and shapes specified in DPAS regulation, whether new, remelted, rerolled, or redrawn.

**Rated Order.** Prime contract, subcontract, or a purchase order in support of an authorized program which requires preferential treatment in accordance with provisions of the DPAS regulation.

**DPAS.** Defense Priorities and Allocations System.

## COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The Standard Industrial Classification (SIC) system used for domestic output and the statistical export and import commodity classifications were developed independently. This results in considerable difficulty in comparing the three types of data for many commodity areas. The domestic output classification is based on type of industry; on the other hand, the export and import classification system is more materials oriented. Also, there are a substantial number of imported commodities which have no comparable domestic output classification. The relationships shown in this report should be considered only as approximations, since, in addition to the problems mentioned above, there are also the following problems affecting the comparability of the three sets of data.



**Valuation.** There are different methods of valuation for the three types of data:

- **Domestic Output.** Valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, exclusive of freight charges and excise taxes.
- **Exports.** Valued at the point of exportation. It includes the selling price, or cost if not sold, and inland freight, insurance and other charges to the export point.

Estimated producers' values of exports have also been developed. These values more closely approximate the values reported for domestic output because they exclude freight, insurance, and other charges applied from the producing plant to the export point.

- **Imports.** Valued at the first port of entry in the United States. It includes c.i.f. (cost, insurance, and freight), duty, and other charges to the import point.

**Duplication in Quantity and Value of Output.** Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of data for such commodities may contain a certain amount of duplication. Thus, percentages of exports to output or imports to apparent consumption (output plus imports minus exports) at four-digit or broader levels may be understated. Where duplication is known to be substantial, the output data are appropriately noted in the table.

**Low-Value Export and Import Transactions.** Detailed commodity information is not included for individual export shipments valued at not more than \$1,000. Generally, detailed commodity information is not included for individual import shipments valued at not more than \$1,000. For textiles and textile products, gloves, footwear, and miscellaneous rubber and plastics products, detailed commodity information is not included for individual import shipments valued at not more than \$250. This is believed to have only negligible effects on the statistics for the bulk of the commodities.

**Manufacturers' Shipments, Not Specified by Kind.** The value of manufacturers' shipments at the four-digit industry level often includes a small amount which is not distributed among the individual five-digit product classes. Export and import percentages at the more detailed levels might, therefore, be slightly overstated.

**Time Lag Between Output and Exports.** There will be a lag between the time a commodity is produced or shipped by the producer and the time it is actually exported, especially when intermediaries (wholesalers, exporters, etc.) are involved. Ordinarily, this type of discrepancy is insignificant in annual figures.

**"Direct" vs "Total" Commodity Exports and Imports.** Export and import data do not include materials which are incorporated into other more finished products and exported or imported in

finished form. Thus, by showing only direct exports and imports, the relation of exports to output and imports to apparent consumption for intermediate products is considerably understated.

**Used Commodities.** With a few exceptions, used or rebuilt commodities are classified in the same import or export codes as is new merchandise. Percentages are thus overstated to the extent that used or rebuilt products are significant in trade.

**Geographic Area of Coverage.** Import and export data reflect the movement of merchandise into and out of U.S. foreign trade zones, the U.S. Virgin Islands, and the U.S. customs territory (includes the 50 States, the District of Columbia, and Puerto Rico).

## RELATED REPORTS

An annual Current Industrial Report also is published in this series. The annual report summarizes quarterly figures and incorporates known revisions for both the current and previous years. It also provides a single reference copy to replace the quarterly publications.

The Bureau of the Census also publishes the following related reports:

| Series                            | Frequency      | Title  |
|-----------------------------------|----------------|--|
| <i>Current Industrial Reports</i> |                |  |
| M33E                              | Monthly        | <i>Nonferrous Castings</i>                               |
| MA33L                             | Annual         | <i>Insulated Wire and Cable</i>                          |
| <i>Other Industrial Reports</i>   |                |  |
| M3-1                              | Monthly        | <i>Manufacturers' Shipments, Inventories, and Orders</i> |
| (AS)                              | Annually       | <i>Annual Survey of Manufactures (ASM)</i>               |
| (MC)                              | Quinquennially | <i>Census of Manufactures</i>                            |
| <i>Foreign Trade Reports</i>      |                |  |
| EM546                             | Monthly        | <i>U.S. Exports—Schedule B—Commodity by Country</i>      |
| IM145X                            | Monthly        | <i>U.S. Imports for Consumption and General Imports</i>  |

## CONTACTS FOR DATA USERS

| Subject Area                      | Contact          | Phone Number   |
|-----------------------------------|------------------|----------------|
| Current Industrial Report ITA9008 | Pamela J. Glekas | (301) 763-2529 |

| <b>Subject Area</b>                               | <b>Contact</b>           | <b>Phone Number</b> |
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| Manufacturers' Shipments, Inventories, and Orders | Ruth Runyan              | (301) 763-2502      |
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